




Improving Performance- Based Logistics

A Different Perspective

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'm confused by all the often-conflicting performance-based logistics opinions I've read lately. Many of the reports I've looked at are about the state of the defense budget and the ever-increasing need for the government to reduce life cycle costs by making smarter sustainment decisions. At the same time, I've seen a rash of magazine articles

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that weakly enumerate the virtues of PBL and simultaneously disparage it as being as outmoded as the landline phone—good in its day, but completely outclassed by the latest technology.

On the other hand, I've also read the articles, perused the Government Accountability Office reports, and seen the briefs denigrating PBL for a whole host of reasons, of which one of the most commonly cited is the lack of funding flexibility. What confuses me is that if PBL really isn't the answer, then why can't I find an article anywhere that suggests any alternative to PBL—with the exception of maintenance of the transactional status quo, which is an alternative that is no longer affordable as evidenced by years of data on operations and support cost escalation and poor performance? My confusion is generated by the thought that if the U.S. government can apply PBL to weapons system sustainment—covering depot repairs, sustaining engineering, reliability growth, configuration management, diminishing manufacturing sources and material shortages mitigation, wholesale inventory management, and even gain sharing, to name just a few of the possible options—for the same price or less than that they are already paying for annual repair transactions for the same subsystem, why would the government, or anyone else, not be a strong advocate for PBL?

I've worked with PBL and many PBL experts for a number of years. Moreover, I've been involved in PBL discussions in a variety of forums, including the Aerospace Industries As-

sociation, the Defense Acquisition University, the University of Tennessee, and the Office of the Secretary of Defense-sponsored Product Support Assessment Team. In many of those discussions, we've tried to reinvigorate, redefine, or replace PBL; but in no instance have we ever discovered a viable PBL alternative. We most often talk about PBL in terms of supporting the warfighter through equipment readiness or availability, but to take a more pragmatic approach, the foundational concept of PBL is cost-wise readiness; or more crassly put, it's all about the money.

For the contractor, the question becomes how to satisfy the required performance metrics of the contract while meeting the profit margin expectations of Wall Street. On the government side, it's a question of how the requirements of the warfighter can be met within existing budget limitations. In both instances, money is the fundamental component in the equation. That said, the purpose of this article is to offer some thoughts on how the Department of Defense can increase the scope and effectiveness of post-production sustainment through a more cooperative approach to PBL that meets the needs of both the military services and industry. The Navy is used as the primary example in this article, but most of the comments examples can apply to PBL in any of the military services.

PBL Key Attributes

PBL is not rocket science, but I've seen some very peculiar ideas promulgated about what PBL is and what it is not, so let me start by laying down a baseline definition. I know every PBL effort is different and everyone has his or her own ideas about what's best, but for the purpose of this article, a PBL is a fixed-price sustainment contract with payment linked to the attainment of specific performance metrics. Further, in order to maximize affordable readiness, a PBL must have three key attributes. Firstly, the goals of the government and the product support provider must be aligned. In other words, the government and the product support provider must approach PBL as a team sport in which they are both on the same side. If the statement of objectives calls for the delivery of fruit, it really doesn't matter how good the apples are that the product support provider delivers if the government really wanted to eat oranges. Secondly, the product support provider must be committed to continuous process improvement. If the product support provider stops focusing on process efficiency, his cost line will start rising toward his contract price and his margin disappears. Thirdly, there must be a well-defined reliability plan. Greater product reliability means fewer maintenance actions by the warfighter; lower sparing levels; and fewer returns to the product support provider, which translates into lower costs, greater margins, and potentially, gain sharing with the government. Additionally, greater reliability opens up the opportunity for the government at the next contract negotiation to choose between asking for the same readiness at a reduced contract price or higher readiness for the same price. Again, money is the fundamental component.

Another important facet of PBL to remember is that the metrics and scope of the PBL are determined by what is most important to the government at the time. The government keeps refining top-level metrics for acquisition logistics programs, with the most recent iteration being the redefinition of availability as a key performance parameter coupled with reliability and ownership cost as key system attributes. Assuming those supportability metrics can avoid being traded away during production, the future of supportability looks good. However, for programs that are already out of production, these new metrics have little impact. Fortunately, PBL can provide the needed availability, reliability, and lower ownership costs for weapons systems already in the military services, but only if the government and the product support provider have their goals aligned and are playing on the same team.

For example, the table below depicts the wide range of PBL services that exist on 25 PBL efforts with the same corporation. The chart includes PBL efforts with the Navy, Army, Marine Corps, and Air Force as well as with foreign governments. The fact that they differ so much in what they provide is reflective of the varying degrees of contract length and alignment between the government and industry. The irony in this is that the government doesn't have to pay more for those services because PBL has to pass a transactional-based business case analysis in order to be approved (at least for PBL


efforts with the Naval Inventory Control Point). On the contractor side, providing such extra services actually contributes to the product support provider's profit by increasing process efficiency and/or product reliability. In a fixed-price environment, lower repair costs lead directly to higher margins. In every case depicted, the government is getting the affordable readiness it wanted and the contractor is getting the return it wanted. Again, the key takeaway you should get from the figure is that under PBL, the services depicted in the various columns can be made available in many cases for the same price as would be paid exclusively for depot repairs under a transactional sustainment contract. Of course, this begs the question I asked earlier: Why would the government or anyone else not choose PBL as their default sustainment strategy?

Improving PBL

All that said, I think PBL can be improved significantly by taking a closer look at how PBL is presently implemented. First, let me say that the maxim taught at the Defense Acquisition University is absolutely correct: PBL needs to be planned upfront and implemented as early in the acquisition cycle as possible. Designing reliability into the product is intuitively the easiest way to reduce life cycle costs and maximize affordable readiness. (A relatively modest investment in reliability at Milestone B can reap huge savings later in sustainment.) It also facilitates earlier implementation of PBL than is presently the norm.

Performance-Based Logistics Efforts

PBL Program	Depot Repairs	Sustainment Engineering	Reliability Growth Plan	Configuration Mgmt	FSRs	DMSMS Mitigation	Wholesale Inventory Mgmt	24/7 Hotline	SCM: Optimized Aligned	Gain Share
FLIR	X	X	X	X	X	X	X		X	X
Navigational Radar System	X	X	X	X	X	X	X	X	X	X
Radar Warning Receiver	X	X	X	X	X	X	X	X	X	
Ground Radar	X	X	X	X	X	X	X	X		
MDA Radar	X	X	X	X	X	X	X	X	X	
Target System	X	X	X	X	X		X	X	X	
Missile System	X	X	X	X		X	X	X		
FMS Airborne Radar	X	X	X	X	X	X			X	
Airborne Tactical Radar	X	X	X	X	X	X			X	
Missile	X	X	X	X		X	X		X	
Navigational Radar System	X	X	X	X	X	X			X	
Missile System	X	X		X	X		X	X	X	
Radar-Guided Gun System	X			X	X	X	X	X	X	
Non-US Training Acft	X	X		X		X	X	X	X	
FMS Missile	X	X		X		X	X	X		
FMS Anti Tank Missile	X	X		X		X		X		
UK Missile Systems	X	X		X	X		X			
Ship Supply Support				X			X	X	X	
FLIRs	X				X			X	X	
Communications System	X			X		X		X		
Missile System	X			X		X		X		
Ground Repairables	X			X	X			X	X	
FLIR	X			X	X		X			
FLIR	X	X			X			X	X	
Fire Control System	X						X			



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While it seems clear that DoD can no longer afford the old paradigm that sees them buying a product for a set price and then continuing to pay the original equipment manufacturer until they get it right, the reality is that in many cases, reliability is traded away for operational performance and the PBL process is not started before the material support date is reached. At that point, the program has already gone through a period of interim contractor support, the initial spares have been bought, and the intermediate maintenance activity has been established. Starting PBL at that point is still beneficial but is akin to shutting the barn door after the horse has escaped. By the material support date, the program manager has likely bought too many spares, often in the wrong configuration; paid for more manpower and intermediate maintenance activity infrastructure than is probably needed; and is just starting to realize that there is no procurement money left in the budget for depot standup. Additionally, by that time, the complexities of modern weapons systems coupled with the intricacies of the acquisition process have probably so frustrated the program manager that he is susceptible to the allure of total platform. Platform-based PBLs certainly have arguments that can be made in their favor, but they come with pass-through fees as the price for ease of execution. Given the need for DoD to maximize every sustainment dollar spent, the program manager must assess the value provided for the convenience. As a benchmark, commercial companies like FedEx® and Southwest® Airlines that live and breathe by predictability and cost control strongly endorse PBL at the subsystem level.

Borrowing a page from the ongoing Office of the Secretary of Defense-sponsored Product Support Assessment Team effort, I believe DoD should consider the adoption of a new product support business model. The model I propose has three basic elements. Firstly, the default product support strategy for DoD must be outcome-based (PBL) in every instance. Before a program initiates any other sustainment strategy, that strategy should have to prove itself better through a rigorous analysis of alternatives and business case analysis process. I contend the opposite is true today, as transactional sustainment is the default position and PBL must pass the business case analysis before acceptance. This is much more than semantics; if PBL is DoD's preferred sustainment strategy, then why don't we treat it as the going-in position?

Next, DoD needs to be more expansive in terms of PBL coverage by investigating alternative subsystem/component

groupings under a single PBL. Vertical, or platform-based, PBLs have their place, as mentioned before, but don't stop there. Why not investigate horizontal PBLs covering multiple platforms with multiple users based on technology, manufacturer, or function? This is already being done in the areas of common avionics and weapons, but I suggest a broader review would open opportunities for significant savings. Another structure to consider is an industry consortium that might roll up all government-furnished equipment on a particular platform into a thin-prime arrangement to provide the ease of management of a platform-based PBL with reasonable pass-through fees.

The third element of my proposed model is that regardless of whether or not Title 10 considerations for core or 50-50 exist, all DoD PBLs should include public-private partnerships as part and parcel of the depot support solution, wherever feasible and practical. Here again, a business case analysis should drive the decision, as organic capability might not be affordable for commercial off-the-shelf items or items commonly repaired at multiple commercial locations. Included in this last element—my most aggressive suggestion—is that DoD should require depot standup concurrent with initial operational capability. Such a radical move would reverse the initial operational capability, material support date, and Navy support date flow; but would yield significant savings through the reduction of interim contractor support, more accurate spares buys, reduced intermediate maintenance activity personnel requirements, and better selection of test equipment. That may require some modifications to Title 10 in the area of depot support equipment ownership and will certainly change the priority the program manager assigns to depot standup, but it is well worth the effort. Interestingly, the last point ties the other elements of my model together in that starting PBL at initial operational capability, with a mandated public-private partnership where economically feasible, transfers design stability risk to the original equipment manufacturer and provides DoD all the benefits of a concurrent initial operational capability/Navy support date previously mentioned. Too often we find post-milestone decision that we do not have depot capability, and necessary funds have been spent elsewhere. Maintaining the status quo may be the best way to avoid rocking the boat, but it won't provide the organic capability and savings in sustainment dollars that DoD needs.

The bottom line is that it's all about the money, and in today's budget environment, incremental improvement only leads to bankruptcy, not greatness. If DoD is serious about saving money on effective life cycle product support, then it needs to consider the changes in product support implementation outlined in this article.

The author appreciates the contributions from Aerospace Industries Association and others to this article.

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